

## NEW Biosimilar Antibodies

PD-1 | Nivolumab Biosimilar  
PD-L1 | Atezolizumab Biosimilar  
CTLA-4 | Ipilimumab Biosimilar  
and more

DISCOVER

BioCell



141 (11)

*J Immunol* 1988; 141:3691-4080; ;  
<http://www.jimmunol.org/content/141/11.citation>

This information is current as  
of January 26, 2022.

### Why *The JI*? [Submit online.](#)

- **Rapid Reviews! 30 days\*** from submission to initial decision
- **No Triage!** Every submission reviewed by practicing scientists
- **Fast Publication!** 4 weeks from acceptance to publication

*\*average*

**Subscription** Information about subscribing to *The Journal of Immunology* is online at:  
<http://jimmunol.org/subscription>

**Permissions** Submit copyright permission requests at:  
<http://www.aai.org/About/Publications/JI/copyright.html>

**Email Alerts** Receive free email-alerts when new articles cite this article. Sign up at:  
<http://jimmunol.org/alerts>

*The Journal of Immunology* is published twice each month by  
The American Association of Immunologists, Inc.,  
1451 Rockville Pike, Suite 650, Rockville, MD 20852  
All rights reserved.  
Print ISSN: 0022-1767 Online ISSN: 1550-6606.



# Contents

## CELLULAR IMMUNOLOGY

- |  |      |   |
|--|------|---|
| J. T. Kung and C. A. Thomas III  | 3691 | Athymic Nude CD4 <sup>+</sup> 8-T Cells Produce IL-2 but Fail to Proliferate in Response to Mitogenic Stimuli   |
| G. J. Spangrude, Y. Aihara, I. L. Weissman, and J. Klein   | 3697 | The Stem Cell Antigens Sca-1 and Sca-2 Sub-Divide Thymic and Peripheral T Lymphocytes into Unique Subsets   |
| T. H. Watts  | 3708 | T Cell Activation by Preformed, Long-Lived Ia-Peptide Complexes: Quantitative Aspects   |
| D. C. Diamond, B. P. Sleckman, T. Gregory, L. A. Lasky, J. L. Greenstein, and S. J. Burakoff       | 3715 | Inhibition of CD4 <sup>+</sup> T Cell Function by the HIV Envelope Protein, gp120   |
| J. Cerny, J. S. Smith, C. Webb, and P. W. Tucker   | 3718 | Properties of Anti-Idiotypic T Cell Lines Propagated with Syngeneic B Lymphocytes I. T Cells Bind Intact Idiotypes and Discriminate between the Somatic Idiotypic Variants in a Manner Similar to the Anti-Idiotypic Antibodies |
| S. S. Patel, A. D. Duby, D. L. Thiele, and P. E. Lipsky  | 3726 | Phenotypic and Functional Characterization of Human T Cell Clones   |
| S. A. McCarthy, E. Kaldjian, and A. Singer   | 3737 | Induction of Anti-CD8 Resistant Cytotoxic T Lymphocytes by Anti-CD8 Antibodies: Functional Evidence for T Cell Signaling Induced by Multi-Valent Cross-Linking of CD8 on Precursor Cells  |
| N. Kumagai, S. H. Benedict, G. B. Mills, and E. W. Gelfand   | 3747 | Cyclosporin A Inhibits Initiation but not Progression of Human T Cell Proliferation Triggered by Phorbol Esters and Calcium Ionophores  |
| B. A. Houlden, R. Q. Cron, J. E. Coligan, and J. A. Bluestone                                      | 3753 | Systematic Development of Distinct T Cell Receptor T Cell Subsets During Fetal Ontogeny   |
| B. W. Needleman, D. H. Lynch, and R. J. Hodes  | 3760 | Effect of Mlsa on Antigen Presentation to Class II-Restricted T Cells   |
| M. Massaia, A. Pileri, M. Boccardo, A. Bianchi, A. Palumbo, and U. Dianzani                        | 3768 | The Generation of Alloreactive Cytotoxic T Lymphocytes Requires the Expression of ECTO-5' Nucleotidase Activity   |
| B. F. Haynes, K. H. Singer, S. M. Denning, and M. E. Martin  | 3776 | Analysis of Expression of CD2, CD3, and T Cell Antigen Receptor Molecules During Early Human Fetal Thymic Development   |
| H. Schrezenmeier, G. Ahnert-Hilger, and B. Fleischer   | 3785 | A T Cell Receptor-Associated GTP-Binding Protein Triggers T Cell Receptor-Mediated Granule Exocytosis in Cytotoxic T Lymphocytes  |
| J. R  thlein, S. P. James, and W. Strober  | 3791 | Role of CD2 in Activation and Cytotoxic Function of CD8/Leu-7-Positive T Cells  |
| V. Calvo, S. Rojo, P. Aparicio, B. Galocha, and J. A. L  pez de Castro                             | 3798 | Avidity Dictates the Lytic Capacity of Human Cytolytic T Lymphocyte Clones with Similar Fine Specificity Against Murine Cells Expressing HLA-B27 Antigen  |
| Y. Dohi, K. Yamada, N. Ohno, M. Aoki, Y. Takagaki, A. Nisonoff, and S. Shinka                      | 3804 | Naturally Occurring Cytotoxic T Lymphocyte Precursors with Specificity for an Ig-idiotype   |
| L. Takacs, F. W. Ruscetti, E. J. Kovacs, B. Rocha, S. Brocke, T. Diamantstein, and B. J. Mathieson | 3810 | Immature, Double Negative (CD4 <sup>-</sup> , CD8 <sup>-</sup> ) Rat Thymocytes Do Not Express IL-2 Receptors   |

Continued on page 4

---

**CLINICAL IMMUNOLOGY • IMMUNOPATHOLOGY**


---

- C. J. Punjabi, D. D. Wood, and P. H. Wooley 3819 A Monoclonal Anti-Type II Collagen Antibody with Cross-Reactive Anti-Ig Activity Specific for the F(ab')<sub>2</sub> Fragment
- M. G. Cleveland, R. B. Ramirez, and G. R. Klimpel 3823 IFN- $\beta$  Production by Macrophages Obtained from Mice Undergoing Graft vs Host Disease
- H. Offner, G. A. Hashim, Y. K. Chou, B. Celnik, R. Jones, and A. A. Vandembark 3828 Encephalitogenic T Cell Clones with Variant Receptor Specificity
- D. A. Clark, M. Falbo, R. B. Rowley, D. Banwatt, J. Stedronska-Clark 3833 Active Suppression of Host-Vs-Graft Reaction in Pregnant Mice. IX. Soluble Suppressor Activity Obtained from Allopregnant Mouse Decidua that Blocks the Cytolytic Effector Response to IL-2 is Related to Transforming Growth Factor- $\beta$
- C. Juarez, M. Agusti, C. Gelpi, J. L. Vila, M. J. Amengual, and J. J. Rodriguez 3841 Characterization of the CB Antigen, A DNA-Binding Protein Recognized by Autoantibodies and which has a Differential Expression in Lymphoid Cells

---

**CYTOKINES • MEDIATORS • REGULATORY MOLECULES**


---

- Y. Lin, R. J. Robb, J. E. Gray, and P. Simon 3847 The Construction and Characterization of a Biologically Active Recombinant IL-2 Containing a Lysine-Rich C-Terminal Extension
- H. E. Broxmeyer, L. Lu, S. Cooper, R. Tushinski, D. Mochizuki, B. Y. Rubin, S. Gillis, and D. E. Williams 3852 Synergistic Effects of Purified Recombinant Human and Murine B-Cell Growth Factor-1/IL-4 on Colony Formation in Vitro by Hematopoietic Progenitor Cells: Multiple Actions
- B. Tartakovsky, A. Finnegan, K. Muegge, D. T. Brody, E. J. Kovacs, M. R. Smith, J. A. Berzofsky, H. A. Young, and S. K. Durum 3863 IL-1 is an Autocrine Growth Factor for T Cell Clones
- J. L. Ceuppens, M. L. Baroja, K. Lorre, J. V. Damme, and A. Billiau 3868 Human T Cell Activation with Phytohemagglutinin; the Function of IL-6 as an Accessory Signal
- O. Tanabe, S. Akira, T. Kamiya, G. G. Wong, T. Hirano, and T. Kishimoto 3875 Genomic Structure of the Murine IL-6 Gene: High Degree Conservation of Potential Regulatory Sequences Between Mouse and Human
- H.-G. Fischer, S. Frosch, K. Reske, and A. B. Reske-Kunz 3882 Granulocyte Macrophage Colony-Stimulating Factor Activates Macrophages Derived From Bone Marrow Cultures to Synthesis of MHC Class II Molecules and to Augmented Antigen Presentation Function

---

**IMMUNOCHEMISTRY**


---

- J.-P. Paccaud, J.-L. Carpentier, and J. A. Schifferli 3889 Direct Evidence for the Clustered Nature of Complement Receptors Type 1 on the Erythrocyte Membrane
- T. Kinoshita, Y. Takata, H. Kozono, J. Takeda, K. Hong, and K. Inoue 3895 C5 Convertase of the Alternative Complement Pathway: Covalent Linkage between Two C3b Molecules within the Trimolecular Complex Enzyme
- P. Densen, C. M. McRill, and S. C. Ross 3902 Assembly of the Membrane Attack Complex Promotes Decay of the Alternative Pathway C3 Convertase on *Neisseria gonorrhoeae*
- M. Streuli, C. Morimoto, M. Schrieber, S. F. Schlossman, and H. Saito 3910 Characterization of CD45 and CD45R Monoclonal Antibodies Using Transfected Mouse Cell Lines that Express Individual Human Leukocyte Common Antigens
- D. L. Albrecht and R. J. Noelle 3915 Membrane Ig-Cytoskeletal Interactions I. Flow Cytofluorometric and Biochemical Analysis of Membrane IgM-Cytoskeletal Interactions
- L. L. Ballard, N. S. Bora, G. H. Yu, and J. P. Atkinson 3923 Biochemical Characterization of Membrane Co-Factor Protein of the Complement System

Continued on page 5

- A. C. Bianchino, P. H. Poon, and V. N. Schumaker 3930 A Mechanism for the Spontaneous Activation of the First Component of Complement, C1, and its Regulation by C1-Inhibitor

---

**IMMUNOPHARMACOLOGY**

---

- S. D. Tenneberg, F. P. Zemlan, and J. S. Solomkin 3937 Characterization of *N*-Formyl-Methionyl-Leucyl-Phenylalanine Receptors on Human Neutrophils: Effects of Isolation and Temperature on Receptor Expression and Functional Activity
- F. H. Valone and L. B. Epstein 3945 Biphasic Platelet-Activating Factor Synthesis by Human Monocytes Stimulated with IL-1- $\beta$ , Tumor Necrosis Factor, or IFN- $\gamma$
- K. P. Windebank, R. T. Abraham, G. Powis, R. A. Olsen, T. J. Barna, and P. J. Leibson 3951 Signal Transduction during Human Natural Killer Cell Activation: Inositol Phosphate Generation and Regulation by Cyclic AMP
- K. Hirai, Y. Morita, Y. Misaki, K. Ohta, T. Takaishi, S. Suzuki, K. Motoyoshi, and T. Miyamoto 3958 Modulation of Human Basophil Histamine Release by Hemopoietic Growth Factors
- C. L. Bashford, G. Menestrina, P. A. Henkart, and C. A. Pasternak 3965 Cell Damage by Cytolysin: Spontaneous Recovery and Reversible Inhibition by Divalent Cations

---

**MICROBIAL IMMUNOLOGY**

---

- R. B. Markham, G. B. Pier, and W. G. Powderly 3975 Suppressor T Cells Regulating the Cell-Mediated Immune Response to *Pseudomonas aeruginosa* Can Be Generated by Immunization with Anti-bacterial T Cells
- J.-P. Tite, S. M. Russell, G. Dougan, D. O'Callaghan, I. Jones, G. Brownlee, and F. Y. Liew 3980 Antiviral Immunity Induced by Recombinant Nucleoprotein of Influenza A Virus I. Characteristics and Cross-Reactivity of T-Cell Responses
- M. Denis, E. Buschman, A. Forget, M. Pelletier, and E. Skamene 3988 Pleiotropic Effects of the Bcg Gene II. Genetic Restriction of Responses to Mitogens and Allogeneic Targets

---

**MOLECULAR BIOLOGY • MOLECULAR GENETICS**

---

- T. C. Meeker, J. C. Grimaldi, R. O'Rourke, J. Loeb, G. Juliusson, and S. Einhorn 3994 Lack of Detectable Somatic Hypermutation in the V Region of the Ig Chain Gene of a Human Chronic B Lymphocytic Leukemia
- J. Jongstra, G. F. Tidmarsh, J. Jongstra-Bilen, and M. M. Davis 3999 A New Lymphocyte-Specific Gene Which Encodes a Putative Binding Ca<sup>2+</sup>-Protein is not Expressed in Transformed T-Lymphocyte Lines
- K. T. Hogan, C. Clayberger, A.-X. T. Le, S. F. Walk, J. P. Ridge, P. Parham, A. M. Krensky, and V. H. Engelhard 4005 Cytotoxic T Lymphocyte-Defined Epitope Differences Between HLA-A2.1 and HLA-A2.2 Map to Two Distinct Regions of the Molecule
- J. L. Claflin and J. Berry 4012 Genetics of the Phosphocholine-Specific Antibody Response to *Streptococcus pneumoniae*. Germline but not Mutated T15 Antibodies are Dominantly Selected
- J. D. Taurog, L. Lowen, J. Forman, and R. E. Hammer 4020 HLA-B27 in Inbred and Non-Inbred Transgenic Mice. Cell Surface Expression and Recognition as an Alloantigen in the Absence of Human B<sub>2</sub>-Microglobulin

Continued on page 6

- T. L. Bugawan, G. T. Horn, C. M. Long, E. Mickelson, J. A. Hansen, G. B. Ferrara, G. Angelini, and H. A. Erlich 4030 Analysis of HLA-DP Allelic Sequence Polymorphism Using the In Vitro Enzymatic NDA Amplification of DP- $\alpha$  and DP- $\beta$  Loci

---

**TUMOR IMMUNOLOGY**

---

- G. M. Gersuk, W.-C. Chang, and P. K. Pattengale 4031 Inhibition of Human Natural Killer Cell Activity by Platelet-Derived Growth Factor II. Membrane Binding Studies, Effect of Recombinant IFN- $\alpha$  and IL-2, and Lack of Effect on T Cell and Antibody-Dependent Cellular Cytotoxicity
- A. A. Maghazachi, R. H. Goldfarb, and R. B. Herberman 4039 Influence of T Cells on the Expression of Lymphokine-Activated Killer Cell Activity and in Vivo Tissue Distribution
- J. Y. Djeu, D. K. Blanchard, A. L. Richards, and H. Friedman 4047 Tumor Necrosis Factor Induction by *Candida albicans* from Human Natural Killer Cells and Monocytes
- C. B. Beidler, J. R. Ludwig, J. Cardenas, J. Phelps, C. G. Papworth, E. Melcher, M. Sierzega, L. J. Myers, B. W. Unger, M. Fisher, G. S. David, and M. J. Johnson 4053 Cloning and High Level Expression of a Chimeric Antibody with Specificity for Human Carcinoembryonic Antigen
- T. Taniyama, K. Yoshida, and T. Furuta 4061 Demonstration of a Novel Tumor-Killing Factor Secreted from Human Macrophage-Monocyte Hybridomas
- D. K. Blanchard and J. Y. Djeu 4067 Protection of Cultured Human Monocytes from Lymphokine-Activated Killer-Mediated Lysis by IFN- $\gamma$
- K. Kuribayashi, C. Tanaka, Y. Matsubayashi, T. Masuda, H. Udono, M. Abe, E. Nakayama, and H. Shiku 4074 Anti-Idiotypic Antibodies Against UV-Induced Tumor-Specific CTL Clones: Preparation in Syngeneic Combination
- Author Index 4081